

Periodical *WR*

# AMERICAN JOURNAL OF PHARMACY

and

## THE SCIENCES SUPPORTING PUBLIC HEALTH

PUBLIC LIBRARY

FEB 10 1942

DETROIT

SINCE  
1825



THE AMERICAN PHARMACY

An Important Factor in Civilian Health and Morale

DECEMBER  
1941

## 1942 SERIES POPULAR SCIENCE LECTURES

By Members of the Faculty

Philadelphia College of Pharmacy and Science

The theme of the series will be

### SCIENCE IN WAR

For twenty-one consecutive years, the Philadelphia College of Pharmacy and Science has offered to the general public a series of Popular Science Talks delivered by members of the Faculty. These lectures have been designed especially to combine scientific accuracy and completeness with a minimum of technical terms, and the topics have always been timely.

This year, with our Country in arms, there can be no more pertinent theme than that of the role played by SCIENCE IN WAR. Accordingly, each of the seven talks of the 1942 Series will deal with one particular phase of the subject, and, while each lecture will be independent of the others, attendance through the entire series will enable the listener to obtain a thorough mind-picture of this most important topic, and will lead to a better understanding of the conduct of war, offensively and defensively.

First lecture Wednesday, February 4

#### **"WHAT SO PROUDLY WE HAIL"**

Health and the War

By DR. IVOR GRIFFITH

Second lecture Wednesday, February 11

#### **"BY THE DAWN'S EARLY LIGHT"**

Physics in the War

By DR. DONALD P. LEGALLEY

Third lecture Wednesday, February 18

#### **"O'ER THE RAMPARTS WE WATCHED"**

Conservation

By PROFESSOR FREEMAN P. STROUP

Fourth lecture Wednesday, February 25

#### **"BOMBS BURSTING IN AIR"**

Chemistry in the War

By DR. ARTHUR OSOL

Fifth lecture Wednesday, March 4

#### **"AND THE ROCKETS' RED GLARE"**

Signals and Detectors

By DR. GEORGE ROSENGARTEN

Sixth lecture Wednesday, March 11

#### **"AT THE TWILIGHT'S LAST GLEAMING"**

Life Saving Medicines

By PROFESSOR LINWOOD F. TICE

Seventh lecture Wednesday, March 18

#### **"THROUGH THE PERILOUS NIGHT"**

Bacteria and the War

By DR. LOUIS GERSHENFELD

All lectures commence at 8.30 P. M. Admission free. The auditorium of the college is located at 43rd Street, Kingsessing and Woodland Avenues.





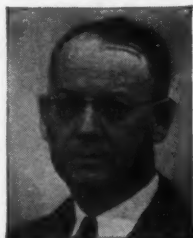


## *Inventory Time is Approaching*

**A**FTER the Christmas decorations are down and the excitement of the holiday period is over, inventory again will be in order. Accurate inventories are essential to good drug-store management. They bring to light inactive stock. They make possible accurate tax reports, establish logical claims in case of fire. Inventories are the basis for all accounting, for the calculation of profit or loss.\*

Careful observation of your prescription stocks once again will prove the wisdom of selective buying, that Lilly Products may cost more to buy, but that they cost less to carry. For Lilly Products move. Your Lilly man works month after month with your physicians, promoting the use of Lilly Products, stimulating general prescription demand. Co-operate with the Lilly representative in your territory. It means money in the bank.

★ **WRITE FOR YOUR FREE COPY OF THE LILLY DIGEST . . .**  
It analyzes the operations of 605 representative drug stores.



Since 1922, F. S. Harris has represented Eli Lilly and Company in and around Valdosta, Georgia. Educated in pharmacy, thoroughly grounded in both the retail and wholesale drug business, Mr. Harris is equipped to render a competent service in the territory in which he operates.

**ELI LILLY AND COMPANY • Indianapolis, Indiana, U. S. A.**



*We pay him . . . but he works for us.*

**DOCTORS** *throughout the U.S.A.*  
are signaling for . . .



It's cough time and many physicians in your neighborhood will be prescribing Cosanyl, the original Syrup Cocillana Compound. They are partial to this sedative-expectorant because of its effectiveness and agreeable flavor. Are you prepared to fill prescriptions promptly?

Cosanyl is supplied in 4-fluidounce, 16-fluidounce and 1-gallon bottles.



**COSANYL**

is made exclusively by  
**PARKE, DAVIS & COMPANY**

# AMERICAN JOURNAL OF PHARMACY AND THE SCIENCES SUPPORTING PUBLIC HEALTH

Since 1825

LINWOOD F. TICE, Ph. G., B. Sc., M. Sc., Editor  
John E. Kramer, B. Sc., Business Manager

## COMMITTEE ON PUBLICATION

E. Fullerton Cook, P. D., Ph. M., M. S., Chairman  
Mitchell Bernstein, P. D., M. D., F. A. C. P.      Louis Gershenfeld, P. D., Ph. M., D. Sc.  
Joseph W. E. Harrison, P. D., Ph. M.      John K. Thum, Ph. G., Ph. M.  
J. W. Sturmer, Phar. D., Ph. M., D. Sc., Secretary  
Ivor Griffith, P. D., Ph. M., D. Sc., F. R. S. A., ex officio

---

---

Vol. 113.

DECEMBER, 1941

No. 12

---

---

## CONTENTS

### Editorials:

Pharmacy and the National Emergency .....	452
The Fairchild Scholarship Results .....	454

### Articles:

What Food for Freedom Means for Pharmacy. By T. Swann Harding .....	455
Ego—and I (Iodine). By Ivor Griffith .....	464
Solid Extracts .....	468
Our Contributors This Month .....	470
Index to Volume 113 .....	471

---

---

Published monthly by the Philadelphia College of Pharmacy and Science  
43rd Street, Kingessing and Woodland Avenues, Philadelphia, Pa.

Annual Subscription, \$3.00	Foreign Postage, 25 Cents Extra
Single Numbers, 30 Cents	Back Numbers, 50 Cents

Entered as Second-Class Matter at the Post Office at Philadelphia, Pa.  
Under the Act of March 3, 1879

Acceptance for Mailing at Special Rate of Postage Provided for in Section 1103  
Act of October 3, 1917. Authorized February 15, 1920



# E D I T O R I A L S

On this page attention is drawn to the challenge and responsibility that should be patriotically met by all pharmacists.

## **PHARMACY AND THE NATIONAL EMERGENCY**

ONE of the most evident results of the present world conflict is the tremendous change produced in our everyday life. We have almost overnight been confronted with new and strange restrictions, activities and plans. A few years ago the thought that passenger cars might no longer be manufactured would have been as impossible an idea as an invasion from Mars, but yet here it is and, if we believe those who are our leaders, even greater changes in our manner of living must be made if we are to protect our "way of life."

The length of the war as well as, indeed, its actual outcome will depend to a great extent upon the efficient and co-operative effort of each and every one of us. It becomes every individual's duty to relinquish some part of that personal freedom, privilege and luxury that heretofore have been his. Thus men have been conscripted for military service, labor unions have been asked to ban strikes and overworked industrialists already see a program of taxation which leaves them far less return than that enjoyed in peace time for much less work and capital investment.

It is, therefore, the duty and obligation of pharmacy to likewise give and take and this entails no minor change. Under the present circumstances a pharmacist who sells a person an item that he fully realizes, with his professional knowledge, is worthless weakens the structure of his country. In times such as these, only products having sound value and utility are worth productive effort and the mere fact that an item has a good margin of profit and is in demand does not justify its sale. Another most important change in which the pharmacist can be of help is the elimination of waste. It can be truthfully said that America is the most wasteful country in the world. We have wasted our resources as if their supply were



infinite and, although some persons seem to take pride in this habit, it is an impoverishing influence which is now, more than ever, a disgrace.

The pharmacist must operate with the fundamental principle that the health of his community is in part *his* responsibility and every act should be evaluated on this basis alone. There seems to be little doubt but that the supreme effort that our country must make to win this war of production will seriously menace the health of the people unless it receives the very best of care. If a pharmacist uses this situation to sell worthless drugs and amass profits he is no better than a fifth columnist who deliberately sabotages a defense plant. We should consider ourselves as a member of a huge team comprising every man, woman and child in the United States which will *win* or *lose* depending upon how we play the game.

One of the increased responsibilities which may come to the pharmacist will arise due to the shortage of physicians. The program of medical education in the United States, as with all professional fields, has attempted to prevent an oversupply. But now with skyrocketing demands for physicians by the armed services the civilian supply will of necessity be curtailed. This will undoubtedly lead to an increased importance of the neighborhood pharmacy since civilian physicians may not always be available for minor ailments. This in turn will put pressure upon pharmacy wherein most authorities already recognize a shortage of trained men—men qualified to manufacture, distribute and dispense medicines.

This increased importance of pharmacy can well be a turning point in its history. If we discharge our obligation with full realization of our abilities and limitations, trying to do our very best and yet not exceeding the bounds of propriety or ethics we will earn even greater respect of physician, government and public. If we make use of this advantage with irresponsible and improper acts we shall certainly destroy our profession. Let it be said of pharmacists that in America's dark days—*They did their part.*

L. F. TICE.

## THE FAIRCHILD SCHOLARSHIP RESULTS

**I**N the October issue of the *Rocky Mountain Druggist* an editorial entitled "We Can't Help Wondering" questions the low grades made by some of the participants in the examinations for the Fairchild Fellowship Award. It is pointed out that these participants represented excellent students selected from large groups who readily passed State Board examinations. Two conditions are cited as possible explanations for this situation, namely, that either the Board members are not selected because of their superior talents or that Board examinations are not coordinated with college teaching.

In our opinion neither of these conditions, if they exist, have any bearing on the subject. It is true that the examinations are made up by college professors, but they are purposely formulated so that they are extremely difficult, so much so that even some teachers of pharmacy, including the writer, might be hard pressed to make good grades.

The Fairchild Scholarship Examination is not given for the purpose of determining a candidate's fitness for graduation or to practice pharmacy but to evaluate *unusual* ability. Thus, the same yardstick must not be used and the numerical results are of only comparative value in that group.

Although we are not on the Fairchild Scholarship Committee, we are quite sure this is the basis upon which it operates. Possibly others in the field of pharmacy have had similar misgivings about these results, and it is not to be unexpected. We hope that sufficient explanation for this anomalous situation has been presented. It surely cannot be used as an illustration of insufficient board and college coordination.

L. F. TICE.



## WHAT FOOD FOR FREEDOM MEANS FOR PHARMACY

By T. Swann Harding

**A** WELL rounded and carefully selected diet is still the best source of all the essential vitamins and it should be the heritage of every American to receive such a diet. Secretary of Agriculture Wickard has announced a program that will provide an ever increasing rise in the health standards of our country by assuring each and every citizen, regardless of his economic level, an adequate diet of healthful foods.

Addressing the American Pharmaceutical Manufacturers Association in Washington, D. C., in December, 1941, Surgeon General Thomas Parran said that, while vitamins may at times be prescribed as drugs in concentrated form, and may then spectacularly overcome the results of long-time vitamin deficiency in a dramatic manner, people should in general use ordinary foods to fill their normal vitamin requirements. At the same meeting Dr. William H. Sebrell, Jr., of the Public Health Service remarked that it was very easy for manufacturers to dupe the public regarding vitamin concentrates, and insisted that the public normally derive its vitamins from the groceryman.

Whereas many substances that we now regard as foods were originally regarded as drugs, vitamins first came into our ken as existing in foods and became drugs only after they could be synthesized. Chocolate, for instance, was brought from Mexico to Florence about 1606. Cardinal Richelieu's brother is supposed to have been the first French person to taste it, but he drank it for a spleen ailment. In 1617 Mme. de Sevigne told of a noble lady who drank chocolate while she was pregnant and as a result delivered a blackamoor. Doctors vied with one another in ascribing healing qualities to the drink, though some said it was a harsh laxative fit only for wild Indians.

Tea was introduced in England about 1650 and many medical miracles were claimed for it, the French soon advising it for gout. One writer dubbed it a panacea for rheumatism, colic, epilepsy, bladder stone, catarrh, and dysentery, while the Bishop of Avranches, who had long been a blear-eyed dyspeptic, restored both his sight and

his digestion with tea. He thereupon expressed his gratitude in a Latin elegy of 58 lines.

Coffee reached Marseilles from Arabia in 1644. It was used medically to fatten the lean, to reduce the obese, and to cure scrofula, hysteria, and toothache. Doctors found it infallible for colds and even serious lung trouble, when imbibed with cream. But it had its detractors, for one princess who became a great coffee bibbler died of a hundred ulcers which physicians attributed to the beverage.

In 1715 one doctor's thesis proved that coffee shortened life, while another declared that it induced nausea, cholera, barrenness, and impotence. But Philippe Hecquet, dean of the Paris medical faculty, declared that coffee allayed passion, put the relationship between the sexes on a higher plane, and enabled monks to keep their vows of chastity.

Sugar also was first introduced as a drug. In 1630 it was so rare that a monthly allowance was doled out at the largest hospital in Paris, the woman in charge being compelled to take oath that she used it only in compounding medicines prescribed by the doctors. It is still true, of course, that the line between foods and drugs is so faint that certain foods are listed in the *Pharmacopeia*. We have yet to learn exactly where food leaves off and drug begins. The vitamins offer an excellent modern instance in point.

Discussing this matter editorially, the *Journal of the American Dietetic Association* said in early 1939 (Feb. 1939 15:105ff.) that vitamin and mineral concentrates were in general foods, rather than drugs, though the concentrates must from time to time be used as drugs to fortify certain diets. We read: "The current and indiscriminate use of 'shot-gun' vitamin therapy without due regard to the interrelationships of the various vitamins, minerals, and other food substances, is apt to be but a transient phase which probably will go the way of other temporarily fashionable 'cure-all' systems."

In the *New England Journal of Medicine* (220:524) Arnold P. Meiklejohn has said: "Most dietary deficiencies are best prevented by directing the inquiring patient to the grocer rather than the druggist". Discussing the vitamin B complex in normal nutrition, C. A. Elvehjem, also in the *Journal of the American Dietetic Association* (Aug.-Sept. 1940 16:646-54), has held that vitamins should if possible be obtained from natural foods, the concentrates being used only when medicine is required and their limitations are recognized.

While he saw no reason for wholesale food fortification or enrichment he could see no basic objection to adding synthetic vitamins to foods when this was cheaper, less objectionable, and more easily controlled than other methods of providing them.

In an editorial entitled "Vitamins for War," the *Journal of the American Medical Association* stated in October 1940 (Oct. 5, 1940 115:1198-9) that Sir John Orr and J. C. Drummond had advised Britain to see to it that the people got vitamins A and B<sub>1</sub> and calcium added to their meagre diet. Stiebeling of the Bureau of Home Economics has shown that many American diets were poor in vitamins A, D, and B<sub>1</sub>, right while we were peaceful and prosperous. Deficiency in the last of these produces sluggishness, moodiness, indifference, fear, and fatigue, 300 I. U. being enough to prevent this and 600 I. U. being optimal.

Because of such findings as those abstracted above the *Consumers Guide*, published by the Department of Agriculture (May 1, 1939), has for some time been advising the public to derive vitamins from the diet. Vitamins have become big-time business, amounting to a hundred million dollars a year, and have appeared in milk, bread, soap, cosmetics, pills, candy bars, tooth paste, breakfast food, and many other commodities. But as to vitamin concentrates we read:

"The average person—unless his doctor tells him differently—can get all the vitamins he needs from a balanced diet of carefully selected foods properly prepared, and served three times a day. . . . So far as scientists know the only people who really need vitamin concentrates are babies and young children, expectant and nursing mothers, persons recuperating from sickness, and those following doctor's orders."

Therefore vitamin A should be sought in eggs, butter, cheese, whole milk, cream, fish-liver oils, and leafy green and yellow vegetables; the B complex in whole seeds, whole-grain cereals, legumes, peanuts, soybeans, green peas, green lima beans, pork, chicken, and kidneys; vitamin C in tomatoes and the citrus fruits generally; and D, especially required by the young, in salmon, egg yolk, and fish-liver oils.

Vitamin G or riboflavine may be derived from liver, kidney, heart, lean meat, eggs, cheese, whole or skim milk, turnip tops, beet tops, kale, mustard greens, rice polishings, peanuts, or soybeans.

The pellagra-preventive, nicotinic acid, while relatively cheap in pure form, also occurs in lean meat, chicken, liver, leafy green vegetables, green or dried peas and beans. The vitamin diet, therefore must contain plenty of fresh green and yellow vegetables, fresh fruits, meat, animal organs, milk, butter, cheese, eggs, and whole-grain cereals.

The cost of vitamins in concentrated form is high if not prohibitive. One proprietary containing vitamins A, B<sub>1</sub>, B<sub>2</sub>, C, and D in concentrated form costs half as much again as the equivalent in cod-liver oil, viosterol, brewer's yeast, and orange juice. The cheapest way of all to procure the vitamins is in a good diet. (See edit. in *New England Journal of Medicine*, Sept. 21, 1939 221:475.)

As was observed above it is easy for unscrupulous manufacturers to dupe the customers regarding vitamin concentrates. For instance, though the label on the bottle honestly states that the product contains 10,000 or 20,000 I. U. per tablet, how many laymen know that an International Unit of vitamin A is only 6/10,000 of a milligram, which is itself only 1/1,000 of a gram, which is 1/29 of an ounce! How many know also that ten or twenty thousand International Units of vitamin A are needed only in cases of extreme deficiency?

How many know, for instance, that Vitamins Plus Inc. stipulated with the Federal Trade Commission (Stipulation 2652, Oct. 23, 1940) to cease claiming directly or by implication that Vitamins Plus would produce sparkling eyes, gleaming lustrous hair, lovely complexion, and enable the taker to become active, gay, beautiful, charming, and to live without a let-up or a let-down? Individual false claims for the specific vitamins contained in this product had also to be discontinued.

On the other hand, as was shown at Mayo clinic, a supply of thiamin equivalent to about 1 milligram per 1,000 calories of food per day, either as concentrate or in food, would quickly and completely cure the manifold and diverse ills of subjects who had been starved of this vitamin for 3 to 6 months. Food can be medicine, and it is now known that many vague fatigue states and nervous disturbances are caused by lack either of specific vitamins or of a group of them.

When the National Nutrition Conference for Defense met in 1941 and brought our dietary deficiencies to public attention, the food industry missed a great opportunity in not following up with a widespread campaign of truthful educational advertising. That at



least would have been of great benefit to those who can afford good food. How about those who cannot?

On November 26, 1941, the New York *Herald Tribune* carried an account of a young man who collapsed from pellagra and died, after he had found work, because he had long refused to eat with his parents and his seven brothers and sisters, realizing there was too little food for them all. People still starve in the United States, the best fed country in the world.

Hazel K. Stiebeling and her aids state that only one-fourth of the families in the United States have good diets, a little more than one-third have fair, and somewhat less than a third have poor diets. If we all had "best-adapted" diets the nation would use twice the quantity of dairy products it does now, 25 to 70 percent more tomatoes, citrus fruits, and sources of vitamin C, and 100 percent more leafy green and yellow vegetables. Actually only half our farm families have good diets while one-fourth each have fair and poor diets. (*Miscellaneous Publication* 430, U. S. Dept. Agr., Are We Well Fed?)

Until a year or so ago we had approximately 55 percent of our people in families with annual incomes of less than \$1,500. These people could afford to spend only from 6 to 10½ cents per person per meal. Yet the U. S. Army, feeding a complete diet, allows 21 cents per soldier per meal to buy it, retail prices. About 40 million people formed parts of families with annual incomes below \$1,000 and it was estimated that 20 million of them could allow only 5 cents per person per meal for food. Under those circumstances they certainly did not get a balanced diet.

Just recently the Bureau of Home Economics put out a mimeograph on Planning Diets by the New Yardstick of Good Nutrition. It is revealing that the most liberal diet listed would allow for an expenditure of only about 17 cents per person per meal for food, while the low-cost diet would allow only 8 to 11 cents. In the past only families on annual incomes of from \$3,000 to \$4,999 a year, a mere 7 percent of our people, could allow 17 to 18 cents per person per meal for food.

More recent studies by the American Institute of Public Opinion confirm these Government findings. That reported December 22, 1940 indicated that one-third of the Nation was ill-fed, and that diets retarding health were eaten by about 4 families out of every 10. While only 20 percent of families earning \$20 a week or more



were conscious of food lacks, 70 percent of those earning less than that knew they were dangerously underfed.

The study reported December 6, 1941, showed that the use of milk by the average American family was below the health-level requirement. The Government has long said each child should have 1 quart and each adult 1 pint of milk (or its equivalent) daily. But the typical American families the country over consume only one-half of this requirement. Moreover dietary standards were on the way down rather than up because people were meeting rising prices by cutting food consumption.

A half-hidden factor here should not be ignored. Though food prices rise, farmers still get a very small portion of the consumer's dollar. But in March, 1941, the Federal Trade Commission announced that the 10 largest fruit- and vegetable-canning corporations in the country handled almost half the business with aggregate sales of \$266,403,196 a year. Their net over-all profits, after every deduction for taxes and selling expenses, including plenty for advertising, was 11.1 cents per dollar of sales!

What has been done to remedy this situation? For one thing the cheap-milk, school-lunch, and food-stamp plans have been instituted, primarily as surplus-diversion devices it is true, but secondarily to improve the nutritional status of millions of underfed children and adults. The market is there if distribution can be effected at a low price level and with high efficiency.

For instance milk-processing plants are quick to bid on contracts to bottle and distribute milk at prices much lower than normal, meaning they make some profit on the deal. They pay the farmer a little more for this milk than he usually gets for milk for manufacturing purposes, though not so much as he gets for fluid milk intended for domestic consumption. In certain instances demand shot up 477 percent in New York City schools when milk was made available at prices children could afford to pay.

The average consumption of milk and green vegetables by children in families which have annual incomes below a thousand dollars a year is less than one-half what it is in families with incomes over \$2,500 a year; the consumption of citrus fruits is only one-third in the former of what it is in the latter. Most children in urban families with incomes of less than a thousand a year are undernourished. The school-lunch plan attacks this problem within the framework of an existing and traditionally hallowed institution, the public school.

More than 65,000 idle workers have been trained to prepare and serve school lunches to about four million children. This is an activity of the Surplus Marketing Administration. The foods are bought back well towards the original producer, the farmer, hence at considerable savings. They consist usually of commodities that would otherwise waste or rot on the farms or else depress the farmer's income if they went to market and reduced prices he received. The plan has been markedly successful and it is of interest to know also that such plans were started in France as long ago as 1849 and received recognition by Parliament as early as 1867.

The food-stamp plan is used also to stimulate consumption by relief and low-income families, again utilizing surpluses. By such means these families which previously had to get along on 5 cents per person per meal for food now receive  $7\frac{1}{2}$  cents.

In the midst of these useful social and economic experiments came the spoil of Europe by the Nazis and the invasion of Holland and Denmark which deprived Great Britain of much of her food. Before long she appealed to the United States for aid and a billion and a half dollars have so far been made available under the lease-lend program to send her food. She particularly requires of us eggs, milk, cheese, lard, pork, and chicken.

Between April and November 1, 1941, we sent to Britain 2.2 billion pounds of food. During October alone we shipped 20 million pounds of agricultural products daily, valued at two million dollars a day. Notable among the products were cheese, dried, frozen, and shell eggs, dried and evaporated milk, canned fish, pork meat products, dried beans, canned tomatoes, lard, prunes, raisins, and starch.

On September 8, 1941, the Secretary of Agriculture announced a great food-for-freedom campaign. Under this plan farm-production goals were set up for 1942. Farmers voluntarily signed up to produce such quantities of food as will amply provide for us and for British requirements as well. The quantities involved for export to Britain are huge—5 billion pounds of milk, or the equivalent, half a billion dozen eggs, 18 million pounds of poultry, 1.5 billion pounds of pork and lard,  $1\frac{1}{4}$  million tons of fresh fruit, and  $2\frac{1}{2}$  million cases of canned vegetables—all for Britain. What about ourselves?

In view of what was said above consider the milk figure. Until 1940 we produced about 106 billion pounds of milk annually, but

1940 set up a record production of milk as of other agricultural commodities—111 billion pounds. Production in 1941 was about 117 billion pounds. The 1942 production goal is 125 billion pounds, 5 of which go to Britain.

However, if all Americans had a "best-adapted" diet we ourselves would consume 140 billion pounds of milk a year. Hence the 1942 goal falls below our scientifically ascertained domestic requirements by 15 billion pounds, though it does provide for an increased use by us of 3 billion pounds. In short, we are using the lease-lend program and the war as a device to increase our agricultural productive capacity of all essential farm commodities. When peace comes our post-war plans call for the continuous utilization of this capacity at full employment and the distribution of the products to all in need of them.

In fact the plan is to guarantee a full diet to every American citizen as his birthright. Secretary Wickward of Agriculture is on record about that. So is Secretary Morgenthau, who told the National Grange at Worcester, Mass., on November 15, 1941: "My own feeling is that we should guarantee to every man, woman, and child the right to have enough milk and butter, enough fruit and vegetables, enough of the protective foods of all kinds so that everyone can be fit to do his part in the world of tomorrow."

During the post-war period there will be much readjustment. While that is going on, while industry absorbs the manpower previously required in the armed services or for military production, so that it too can operate at full capacity and full employment, we shall use the surplus-disposal plans—school lunch, cheap milk, food stamp, and so on—to increase the consumption of low-income and relief families. But once we get our agricultural and industrial plants running to capacity with full employment, while we effect efficient distribution of all these plants produce, the national income will rise to new heights, more people than ever before can pay their own way, and only the irreducible residue of unemployables will have to have government aid.

If it is wise the food industry will also learn some new tricks. It will find out how to process and distribute food products much more cheaply and efficiently than it does now. It will deliberately cater to the requirements of low-income groups by packaging honestly labelled substandard but fully nutritious foods at low prices. It will discover new sanitary methods of distributing many products in

bulk that are now sent out in unnecessarily expensive packages. In short, the food industry will become truly a service institution as it should be. It will learn to seek profits in narrow margins and quick turnovers and to avoid superfluous services and activities.

That is the food picture as the Government sees it today. In a way it does seem to menace some of the profits of the druggist and the pharmaceutical manufacturer. For it regards food as the proper source of many essentials now so often prescribed or used in self-medication as drugs. Furthermore, the program will produce a far healthier populace much less in need of medication than ever before.

Yet the ethical professional pharmacy will always have its honored place in the scheme of things. Much of the business that so-called drug stores now carry on might well go back to the grocery, the notion and gadget store, the perfumer and cosmetician, the liquor store, lunch-room, and restaurant.

---

#### **The Therapeutic Research Corporation of Great Britain, Ltd.**

Unique in the pharmaceutical field is the establishment of a private corporation capitalized at £500,000 for the purpose of the coordination and extension of research with a view of accelerating the discovery of new substances for the service of therapeutic and preventative medicine. Five companies have undertaken this co-operative effort each of which is an outstanding concern in the British drug industry.

One of the points of difficulty in this country, particularly in recent years, has been the problems arising in arranging equitable and fair distribution of the large number of medicinal agents that have been introduced. In some cases since the entire costs of research and development were born by a single company the cost to the consumer were of necessity quite high, and in some cases it is doubtful whether sufficient return was possible at all to those responsible for the development.

It may well be that cooperative effort in our own industry would serve to reduce costs by the elimination of duplicate and even quadruplicate effort and lowered costs mean in the final analysis what every fair-minded person should definitely strive for, a lowered cost of efficient medical care.

L. F. T.

## EGO—AND I (Iodine)

By Ivor Griffith

**I**F the Garden of Eden was somewhere in the region of the Gobi desert, as is alleged by some, Adam and Eve, even after the primal sin had sent them commuting, lived on an iodine-low diet. No more inland spot could have been chosen for man's beginnings, and such of his children as remained long (several myrennia) in that vicinity have held on to their slit-eyed Mongol features. The Mongolian face may or may not have been man's original appearance. If it was, then all artists to date have neither depicted nor oriented Adam and Eve in conformity with physiologic *conjecture!*

Uneasy men, with strangely active and perhaps pathologic thyroid, who migrated shoreward and westward ultimately lost their Mongolian appearance, lost it permanently, except where today, through some freak of physiology, a thyroid gland underfunctions, and lacking iodine's influence, there is frequently a reversion to Mongoloid features and often Mongoloid characteristics. Consider the sufferers from over-thyroid supply and their tense living and on the other hand consider the composed sinesque hypothyroids.

Continuing our iodine wondering and wandering, is it possible that the attenuation of Mongolian features and attributes has been a function of time and migration as well as of water and soil and food. For instance think of the color and feature attenuation beginning with the Chinese, thence southwestward to the Thibetan, the Thai, the Indian, the Arab, etc., northwestward to the Lapp, the Finn, the Siberian, the Eskimo, etc., then east to the Inca, the American Indian, etc. One could almost graph the eye slant variation and so trace and track the time and place factors. Eyes have always been the thyroid signals. The pop-eyed are thyroid overdone, the slit-eyed, the slant-eyed, and the sunk-eyed may be under-iodated. Someone argues that the Eskimo has ample iodine in the sea food he eats, but we suggest, in rebuttal, that his fathers had remained so long inland that the complete wiping out of Mongoloid features will be a matter of more millenia. To get the thyroid operating on the same cycle in the Eskimo as it does in the Caucasion is a function of time and location, for more than likely the Caucasians (especially the Aryans!!) have been close to iodine supplies much longer than have God's frozen children! Furthermore it may be that cold climate is not conducive to diluting the Mongol traits.

To the laboratorian B. M. R. means *basal metabolic rate*, and in the indirect estimate of the functioning of that little iodine factory with big responsibilities, called the thyroid gland, a determination of the B. M. R. affords something of a diagnostic picture. Thus the normal hits the 100 mark, the over active thyroid runs up beyond the hundred, and the under active below, sometimes way below. Anthropologically there might be some value in a careful and elaborate statistical study of the B. M. R. of typical on-location Mongolians (not Mongoloid), of Lapps, Eskimos and Finns.

And since this day's ink seems to be iodine, it is interesting to recall that the chemist's crucible is now turning out at will, a clinically proven synthetic equivalent to the four iodine cornered complex delivered by that ounce of neck-located thyroid gland. Synthetic thyroxine, as first prepared by Harrington and Barger, despite its cumbersome two-ringed formula is nearly seventy per cent. rich in iodine. To prove its equality to the natural product the investigators pushed a weak solution of it into the circulation of a few patients with low metabolic rates (54 to 60) and the body promptly answered by smacking the bell at the hundred mark.

And mind you, of actual iodine, in active body use, only a trace is needed, a mere widow's mite—but what a mighty mite!!

The thyroid gland is present in all vertebrate animals beginning low down in the scale, with the lampreys and complicating its structure and increasing its size as it occurs farther up in the evolutionary scale. In fish the thyroid occurs as small scrubby patches little larger than pin heads scattered along the important blood vessels. Then in the reptiles it is a little larger and more compact, and still more prominent among the birds and the mammalia. But it is in the primates and in man that it attains to greatest size. Thus it might be said that the thyroid gland is an indicator of evolution.

The farther we are from our early home in the sea the larger the thyroid gland. Now if evolution continues along the same line, a million years from now our thyroid may have become the most important organ in our bodies. And man's appearance may be consequently so changed that instead of being the good looking creature he thinks he now is, he will have evolved into a pop-eyed, fat-headed, chinless creature, the space between his chin and his collar button having been taken over by his constantly expanding iodine plant.

But that is too far off to worry about. Several things may happen in a million years.



Listen! The high tide of iodine in the blood is about 1 grain of iodine to 10 million grains of blood or less than a hundredth ( $1/100$ ) of a grain in the entire circulation. The iodine reservoir in the body, namely, the store room of the thyroid factory, only holds one-third of a grain (about 25 milligrams), and in order to keep this reservoir full the normal human being has only to consume per day, in his *air*, or food or drink, less than a thousandth of a grain of iodine. No wonder some people believe in Homeopathy. It seems that the Great Spirit did!!

Moral: Irrespective of religion make Friday a fry-day—of salt water crustaceans or fish!

This terrestrial sphere is rich in iodine! Especially in its aqueous phase. Most all sea organisms, plant and animals are heavy with it. Consider the sponge. In some tropical species the ash will contain from 8 to 14 per cent. of the element. This ash was given as a medicine, an *official* medicine, in the early part of the nineteenth century when the best "study of mankind was man," not the guinea pig! Centuries before the Pharmacopœia existed the Chinese *cured* neck tumors with sponge ash. Even the humble oyster, whether brought up in beds, well-aired or not, harbors his share of iodine. Sea water itself contains about  $1/3000$ th of a grain of iodine to the gallon, yet oddly the great Salt Lake of Utah while containing five times as much salt as ordinary sea water shows only  $1/2000$ th grain of iodine to the gallon. Which proves after all that iodine is a sea-going simple, and at its best only an excursioning land-lubber.

Certain imaginations have conjured the claim that all life was once marine or submarine—that the antecedents of every creature now living, like Venus of old, once lolled in a luke-warm sea. One of the ariadnic threads wherewith they bind their arguments is in the remarkable comparison which they make between animal blood and sea water. Blood plasma indeed is in salt content, chloride, phosphate, iodine and other substances, very like sea water, and the ratios are remarkably alike. The contention of such conjecturers is that whereas we were once limpid jelly fish floating lazily on the dank primeval ocean, we are now so evolved and involved that a share of the sea floats diligently within us, its ebb and flow in every heartbeat.

But so it is, with the mouse and the louse!! So what??

And is the matter of lassitude, of the complacent attitude of the typical Oriental of long inheritance, another of iodine's errors of omission? Listen again! The purpose of the body's iodine factory,



the thyroid gland seems to be to control the dynamy of living, in the physico-chemical sense. A thyroid gland which is over producing accelerates every body function—opens wide the drafts of the fiery furnaces wherein our food and flesh are burnt away to ashes and to energy, over-sensitizes our nervous structures and over-speeds our blood stream. Everything done is over done and death comes that much sooner!

But the gland that is under-producing slows up the system, under-fires the powerhouse and soots and shuts the chimneys, it underworks the brain and makes it dull and drowsy. Lack of its normal secretions undermines the nerve and muscle, the victim is awkward and clumsy, the blood is underfed and so invites infection. Everything done is underdone and even death comes lazily.

Thus are fifty years of Europe like a cycle in Cathay!!!

And thus too are we the trivial toys of a mite of iodine. No wonder the chemists have given this element the symbol I. It can well afford its egotistic elementence.

---

### Health Fallacies

The following commonly believed fallacies which are all scientifically unsound were published in *Hygeia* recently together with a survey showing the extent of belief of these amongst a representative group of CCC workers. How many of them do you recognize as untrue?

"Eating green apples commonly causes colic.

"Cereals are rich in body building protein, provide a source for quick energy and are in general a good 'all-round' food.

"Canned vegetables and fruits allowed to remain in the original container until the next meal will be poisoned.

"Tooth decay is best prevented by thorough and frequent brushing.

"The 'stuffiness' and 'closeness' of the air in a room is due to an excess of carbonic acid gas or to the organic poisons from the breath.

"Baking soda hastens the digestive process in the stomach.

"Small organisms (bacteri) are spontaneously generated from filth or accumulations of dirt.

"It is more dangerous for an adult to have whooping cough than a child.

"An onion eaten raw is of value in the treatment of a cold.

"Exerting the body rests the mind."

# SOLID      EXTRACTS

Science Briefs  
from  
Here and There

---

Body burns that destroy areas of tissue, tend to disorder the blood's electrolytic and fluid balance, causing severe shock. Adequate amounts of fluid and salt are indicated, and, in some cases, blood or plasma are required. Helpful, too, is the administration of desoxycorticosterone acetate, the adrenal cortical hormone which is also used in the treatment of Addison's disease. Here is another remedial agent of especial use on or near the front line of battle, where burns are common.

AJP

*At the recent convention of the American Pharmaceutical Association, it was pointed out by one lecturer that the women who lived more than 5000 years ago were just as vain as our present day consorts. They used more perfumes and sweet smelling oils than modern women, and it was the custom for the host at a party to dispense perfume flasks or spray his guests with atomized scented water. All of this was, no doubt, very true, since our efficient, worthwhile soap is a comparatively recent development.*

AJP

Mannitol hexanitrate is not a new drug, but it is just now achieving more favorable attention through the development of a method of synthesis which makes less expensive production possible. First manufactured in 1895, this substance acts as a prolonged and effective vasodilator, similar to erythrityl tetranitrate, which latter, however, is more rapid in its action and of shorter duration. Both of these are used in relieving painful attacks of angina and in reducing abnormally high blood pressure.

*Due to the fact that malaria is usually a chronic disease and not an acute one, there was a time when a protracted quinine treatment was believed necessary to combat that illness successfully. Now, however, it has been found that short treatments involve no more relapses than the long ones, and that they are less expensive, less apt to produce symptoms of cinchonism, easier for the patient to follow, and instrumental in bringing out the tonic effects of quinine because of the moderate amounts administered.*

AJP

The exact position of vitamin B<sub>6</sub> in relation to human nutrition is not clearly defined. However, the fact has been established that patients who have been adequately treated with thiamin chloride (B<sub>1</sub>), riboflavin (B<sub>2</sub>), and nicotinic acid, and who still exhibit residual symptoms, often respond to B<sub>6</sub> administration. Thus it can be seen that vitamin therapy, considered by some to be quite simple, is really quite complex and it further supports the use of all of the associated B factors rather than a single individual of this group.

AJP

*Medical service in the United States Army is well organized and comprehensive. To care for soldiers needing medical attention, the War Department has prescribed beds in station hospitals to the number of 4 per cent. of the total military force and in general hospitals to the number of 1 per cent. of the total military force. Hospitals for service in the combat zone are not included in these basic calculations.*

AJP

Drunken driving has met, universally, individual and organized resentment. No one has much time for the person who drives a car while under the influence of liquor. Yet, not all fatal auto accidents involving "drunks" are caused by drivers who have had one or two too many, for the intoxicated pedestrian is an important factor in these happenings. In a recent study of almost 3500 fatalities, 30.7 per cent. of the pedestrians involved had inbibed alcoholic drinks. These conclusions were reached on analyses based on the brain alcohol content of the deceased victims.

*If you want to keep your blood pressure down, you may some day see your surgeon, not your doctor. According to two eminent surgeons, a series of malignant hypertension cases treated with surgery and observed over a period of five years resulted in survival of 33 per cent. of the patients, whereas following medical treatment the mortality was more than 99 per cent.*

AJP

Chlorophyll, oftentimes termed plant blood, has made meteoric progress in the realm of medicine, and is now branching out into commercial fields. For instance, when used with paper as a wrapper, it helps keep perishable foods from spoiling. It is also being used to assist in removing volatile nicotine from tobacco. If you have not heard much about this substance and its properties, you soon will, for its commercial exploiters are planning to turn the facts of its properties over to their advertising staffs. Then, perhaps, you may like to have a moment or two when you are not hearing or reading about chlorophyll.

---

### OUR CONTRIBUTORS THIS MONTH

**Ivor Griffith Ph. M., D. Sc., F. R. S. A.,** is President of the Philadelphia College of Pharmacy and Science, a member of the Board of Health of the State of Pennsylvania and widely active in pharmaceutical affairs. Dr. Griffith is well known to the readers of this journal since he served as its editor for many years. We are certain that his contributions from time to time will be received with interest and enjoyment.

**T. Swann Harding, B. Sc.** Regular readers of our Journal need no introduction to this hard-hitting and ever popular author. Situated in a strategic position in Washington, Mr. Harding knows well the trend of the times and the aims and policy of certain divisions of our government. Liberals will find in his writings much to cause them to rejoice and conservatives much to accept with finality the death of so-called "rugged individualism."

# INDEX TO VOLUME 113 OF THE AMERICAN JOURNAL OF PHARMACY

## AUTHOR INDEX, 1941

(B)—Book Review

(E)—Editorial

	PAGE		PAGE
Allen, Henry Butler—		Effect of Aerosol OT and Hydrogen-Ion Concentration on the Bactericidal Efficiency of Antiseptics .....	237
Founders' Day Address, Philadelphia College of Pharmacy and Science .....	107	Significance of Hydrogen-Ion Concentration in the Evaluation of the Bactericidal Efficiency of Surface Tension Depressants .....	89
Bandaruk, William —		Surface Tension Reducents in Bactericidal Solutions: Their <i>In Vitro</i> and <i>In Vivo</i> Efficiencies .....	215
An Iodate Assay for Relatively Pure Ascorbic Acid .....	18	Griffith, Ivor—	
Campbell, C. J.—		Ego—and I (Iodine) .....	464
Physical Properties as a Basis for Identification of Solid Stuffs .....	12	Pharmacy's Ambassador-at-Large—The Hospital Pharmacist (E) .....	349
Crosby, L. S.—		Radio-Activity (E) .....	3
Proposed Changes in Formulas for U. S. P. Tinctures of Iodine .....	20	Soil, a Poem .....	419
Eby, Frank H.—		The Cream of the Crop (E) ..	86
A Review of the Botanical Drug Situation in the United States .....	45	What Is Education? (E) ....	43
Ewing, C. O.—		William Procter, Jr. ....	329
Proposed Changes in Formulas for U. S. P. Tinctures of Iodine .....	20	Harding, T. Swann—	
Fischelis, Robert P.—		How Creams and Lotions Have Fared Under the New Federal Regulatory Laws ..	397
Drug Industry's Contribution to Medical Care and to the Progress of Science .....	420	"No Worms in Mine, Please".	364
Gershenfeld, Louis—		Science the Handmaid of Agriculture .....	58
Bactericidal and Bacteriostatic Properties of Surface Tension Depressants .....	306		

	PAGE		PAGE
The Consumer, Bloody But Unbowed .....	196	Olsen, Paul C.— 1940 Year Book of the Na- tional Wholesale Druggists' Association (B) .....	169
What Food for Freedom Means for Pharmacy .....	455	Osol, Arthur— Medical Manual of Chemical Warfare (B) .....	30
Holland, M. O.— Drug Store Management (B) .	414	Organic Chemistry, with Ap- plications to Pharmacy and Medicine (B) .....	381
Horn, David Wilbur— Observations Upon the Phos- phatase Test of Milk .....	142	The Chemistry of Some of the Newer Drugs .....	263
Huyck, C. Lee— Effect of Certain Agents on the Stability of Ferrous Sulfate Solutions .....	189	Perlstein, David— Effect of Aerosol OT and Hy- drogen-Ion Concentration on the Bactericidal Efficiency of Antiseptics .....	237
Effect of Ultra Violet and Sunlight on Solutions of Some Coloring Agents .....	149	Significance of Hydrogen-Ion Concentration in the Evalua- tion of the Bactericidal Effi- ciency of Surface Tension Depressants .....	89
Kramer, John E.— Ships, Shoes and Sealing Wax (E) .....	351	Ponce, Amelia de— Extension of U. S. P. Use in Pan-American Countries ...	103
Shortage of Pharmacists a Blessing or a Problem? (E)	174	Reber, L. A.— Organic Reagents in Inorganic Analysis (B) .....	449
Kuever, R. A.— Test for Heavy Metals in Hy- pophosphorous Acid .....	327	Rodman, Robert W.— Pharmacy's New Horizon ...	389
Little, Clarence C.— Control of Cancer .....	5	Rosenblum, H.— Assay Methods for 2-Methyl Naphthoquinone (Mena- dione) .....	434
Mack, H.— Assay Methods for 2-Methyl Naphthoquinone (Mena- dione) .....	434	Rosengarten, George— The Electron Microscope ....	358
Malpass, George N.— Pharmacy and Philately .....	67	Rosin, Joseph— Assay Methods for 2-Methyl Naphthoquinone (Menadi- one) .....	434
Mandel, Edwin A.— The Chemistry and Manufac- ture of Cosmetics (B) .....	450	General Observations on the U. S. P. Standards and Tests .....	8
Milanick, Vera E.— Bactericidal and Bacteriostatic Properties of Surface Ten- sion Depressants .....	306		
Nelson, E. M.— The Standardization of Vita- min Assays by the U. S. P.	23		

	PAGE		PAGE
Rivera, Gilberto—		Let Us Have Faith (E) .....	305
Preliminary Chemical and		Nutrition and National Health	
"Pharmacological Studies on		(E) .....	213
"Cundeamor," Momordica		Our Policy (E) .....	131
Charantia L. (Part 1) ....	281	Pharmaceutical Education	
Schain, Philip—		Should Mean Just That (E)	385
Animal and Reptile Holder ..	100	Pharmacy and the National	
Speel, Henry C.—		Emergency (E) .....	452
Mannitol and Sorbitol in Phar-		Real Obstruction in the Eradi-	
macy .....	134	cation of Syphilis (E) ....	417
Stahl, Kenneth H.—		Sulfathiazole Incident, The	
Test for Heavy Metals in Hy-		(E) .....	174
pophosphorous Acid .....	327	Wiedling, Sten.—	
Taylor, F. O.—		Daphnia Magna .....	405
A General Discussion of Proxi-		Witlin, Bernard—	
mate Assays .....	93	The Effect of Undiluted Anti-	
Thomas, C. A.—		septics on Tissue Fragments	353
Insects are Costly Enemies ..	177	Perfusion Technic for the	
Tice, L. F.—		Evaluation of Bactericides by	
American Illustrated Medical		the Tissue Culture Method.	203
Dictionary (B) .....	346	Surface Tension Reducents in	
A Miscarriage of Justice? (E)	261	Bactericidal Solutions: Their	
A. Ph. A. Practical Journal ...	88	<i>In Vitro</i> and <i>In Vivo</i> Effici-	
Drug and Specialty Formulas		encies .....	215
(B) .....	381	Wood, Horatio C.—	
Fairchild Scholarship Results		Therapeutics of Some New	
(E) .....	454	Drugs .....	273
Hospital Formulary and Com-		Zamet, Nathan—	
pendium of Useful Informa-		British Pharmacy Carries On.	298
tion (B) .....	169		



## SUBJECT INDEX, 1941

(A)—Abstract  
 (B)—Book Review  
 (C. B.)—Contributor's  
           Biography  
 (E)—Editorial  
 (S)—Solid Extract

	PAGE		PAGE
Abstract Sections—29, 76, 120, 160, 343, 371, 406, 442		Alkyl Ethers, 2, 4-dinitrophenol as Stimulants of the Metabolic rate (A) .....	36
Acacia .....	55	Allen, Henry Butler (C. B.) ....	116
Acetanilid .....	15	Allspice .....	395
Acetyltannic Acid .....	337	Aloe Vera Leaf in the Treatment of Third Degree X-ray Reac- tions (A) .....	371
Aconite .....	55, 337	Alpha-Tocopherol .....	263
Acriflavine .....	337	Althaea .....	55
Acriflavine Hydrochloride .....	337	Aluminum Hydroxide .....	279
Adrenalin Stability in Solutions of Procaine and Adrenalin (A) .....	444	Aluminum Hydroxide as an Emulsifying Agent (A) .....	32
Adtevac .....	387	Amacid Fast .....	152
Aerosol .....	237	Amaranth .....	152
Aerosol OT .....	89, 217, 316	American Illustrated Medical Dic- tionary (B) .....	346
Aerosols (A) .....	161	p-Amino Benzoic Acid (S) .....	84
Agar, Determining the Hardness of (A) .....	77	2-Amino-2-ethyl-1, 3 Propanediol. ....	217
Agriculture and Science .....	58	Ammonium Benzoate .....	337
Agriculture Department History .	65	Ammonium Bromide .....	337
Aid to the Pharmaceutical Society of Great Britain .....	133	Ammonium Salicylate .....	337
Airplane Streamlining (S) .....	208	Animal and Reptile Holder .....	100
Air Raid Shelter Cleansing (S). ....	380	Announcement by the National Formulary Committee .....	440
Albumin Tannate .....	337	Antiseptics, Undiluted, Effect on Tissue Fragments .....	353
Alcoholic Caramel .....	153	Antioxidants with Oil of Pepper- mint (A) .....	374
Alcohol Effect on Vitamin A (A) ..	35		
Alexandria Senna .....	55		
Alkanol (B) .....	217		

	PAGE		PAGE
A. Ph. A. Committee on Pharmaceutical Research .....	92	Belladonna Leaves .....	55
A. Ph. A. Practical Journal .....	88	Belladonna Root .....	55
Argyrol, Aqueous .....	355	Benzedrine, Detection and Estimation of (A) .....	32
Arlex .....	138	Benzedrine Sulfate—a Correction. ....	132
Arnica Flowers .....	55	Berberis .....	48
Aromatic Sulfuric Acid .....	338	Bergamot .....	49, 55
Arsenic Triiodide .....	338	Betanaphthol .....	221
Arthritic Patients Treated with Stinging Bees, (S) .....	83	Beta-Pyridinecarboic Acid .....	266
Articles Not Official Now But Recommended for Inclusion in U. S. P. XII .....	17	Bio-Assay of the Digitalis Group (A) .....	160
Artificial Radioactivity (S) .....	167	Bismuth Subgallate .....	338
Asafetida .....	338	Bitter Apple .....	55
Ascorbic Acid, Iodate Assay For .....	18	Blue Mass .....	340
Ascorbic Acid Intake (A) .....	377	Book Reviews, 169, 210, 301, 346, 381, 414, 449	
Asphalt (S) .....	379	Botanical Drug Situation in the United States .....	45
Assay Methods for 2-Methyl Naphthoquinine. (Menadione). ....	434	Braisted, William C.—Obituary..	42
Athlete's Foot (A) .....	188	Brilliant Blue .....	153
(S) .....	448	British Pharmacists Need Help..	7
Bacteria, Metabolism of (A) ....	77	British Pharmacy Carries On ...	298
Bactericidal and Bacteriostatic Properties of Surface Tension Depressants .....	306	Buckthorn Bark .....	55
Bactericidal Efficiency of Surface Tension Depressants .....	89	Buckthorn Berries .....	55
Bactericidal Solution Surface Tension Reducents .....	215	Cadmium Metal Poisoning (A)..	343
Bactericide Evaluation by Tissue Culture Method .....	203	Calcium Bromide .....	338
Bacteriosis (S) .....	39	Calcium Carbonate .....	278
Bandaruk, William (C. B.) .....	40	Calcium Creosotate .....	338
Bees in Arthritis (S) .....	83	Cajeput .....	53
Belladonna .....	50	Calgon .....	217
Belladonna, American, Just as Efficient as Bulgarian in Treatment of Parkinson's Disease (A) .....	328	Campbell, Charles J (C. B.) ....	40
		Camphor Trees .....	54
		Cancer Control (A) .....	5
		Cannabis .....	338
		Cantharides .....	338
		Cantharides Plaster .....	338
		Capsicum .....	338
		Carbromal .....	338
		Cargentos, Aqueous .....	355

	PAGE		PAGE
Carvacrol .....	221	Corner Druggist (B) .....	210
Cascara Sagrada .....	47	Cream of the Crop (E) .....	86
Castor Oil (S) .....	447	Creams and Lotions .....	397
Celery .....	55	Cresol .....	221
Cepryn Chloride .....	151	m-Cresol .....	221
Chamomile Flowers .....	55	o-Cresol .....	221
Chemistry and Manufacture of		p-Cresol .....	221
Cosmetics (B) .....	450	Creosote .....	338
Chemistry of Some Newer Drugs .....	263	Creosote Carbonate .....	338
Chlor Symmetrical Xylenol ....	221	Cresylic Acids .....	164
Chloral Alcoholate (A) .....	375	Crosby, L. S. (A. B.) .....	40
Chlorophyll (S) .....	167, 470	Cryochem .....	387
Chlorthymol .....	221	Cundeamor, Momordica Charantia	
Cigarette, the Soldier and the		L., Chemical and Pharmacolog-	
Physician .....	409	ical Studies .....	281
Cinchona .....	338	Daintex .....	217
Cinchona Assay .....	94	Dakin's Solution .....	339
Cinnamon .....	395	Daphnia Magna .....	405
Civil Service Positions (S) ....	380	Dedications,	
Cleansing Cream .....	398	Griffith, Ivor .....	130
Cloves .....	395	Kendig, H. Evert .....	304
Cod Liver .....	55	Kline, Mahlon N. ....	416
Colchicum Corm .....	55	Krusen, Wilmer .....	172
Colchicum Seed .....	55	Peacock, Josiah C. ....	348
Cold Cream .....	398	Rosin, Joseph .....	2
Common Colds (A) .....	30	Ruth, Robert .....	384
(S) .....	412	Dental Anesthetics (A) .....	125
Compound Licorice Powder ....	339	Desivac .....	387
Compound Mixture of Opium and		Desoxycorticosterone Acetate (S) .....	468
Glycyrrhiza .....	338	Detection and Estimation of Ben-	
Compound Powder of Senna ....	339	zedrine (A) .....	32
Compound Tincture of Cinchona .	338	Development of Drug Standardi-	
Consumer, Bloody But Unbowed. .	196	zation .....	426
Contributors' Biographies,		Dichloramine-T .....	339
40, 75, 116, 157, 206, 258, 297,		Dick Reaction .....	410
342, 382, 414, 433, 470		Diet .....	455
Control of Cancer (A) .....	5	Digitalis .....	48
Copaiba .....	339	Digitalis Group Bio-Assay (A)..	160
Coriander .....	55		

	PAGE		PAGE
Digitalis Leaves from British Sources, Variation in Samples of (A) .....	444	Enteric Coating, New (A) .....	377
Diluted Acetic Acid .....	339	Ephedra .....	54, 55
Dogwood Bark Decoction (S) ..	128	Ephedrine in Silver Antiseptics (A) .....	37
Domestic Drug Cultivation .....	45	Ephedrine, Solubility in Liquid Petrolatum (A) .....	372
Domestic Drug Plants (S) .....	38	Epizootic (S) .....	127
Dreft .....	217	Ergometrine, Separation from Other Ergot Alkaloids (A) ...	374
Drene .....	217	Ergonovine and Ergot (A) ....	35
Drug and Specialty Formulas (B) 381		Ersatz Iodine (S) .....	413
Drug Industry's Contribution to Medical Care and to the Progress of Science .....	420	Erythrosine .....	152
Drug Scarcity (S) .....	39	Ethylhydrocupreine Hydrochloride	339
Drug Sources .....	394	Ewing, C. O. (C. B.) .....	40
Drug Store Management (B). ..	414	Extract of Cannabis .....	338
Druggist Scarcity (S) .....	39	Extract of Nux Vomica .....	339
Drunken Driving (S) .....	469	Fairchild Scholarship Results (E)	454
Duponol ME .....	217	Fallacies .....	467
Eby, Frank H. (A. B.) .....	75	Fast Green, FCF .....	153
Editorials,		FCF .....	152
3, 43, 86, 131, 173, 213, 261,		Fear Complex (S) .....	126
305, 349, 385, 417, 452		Fennel .....	55
Education (A) .....	57	Ferrous Sulfate Solution Stability	189
Education, What Is It? (E) ....	43	First Oil Well (S) .....	257
Effect of Aerosol AT and Hydrogen-Ion Concentration on the Bactericidal Efficiency of Antiseptics .....	237	Fischelis, Robert P. (C. B.) ....	433
Effect of Certain Agents on the Stability of Ferrous Sulfate Solutions .....	189	Flame Tests .....	13
Eggleston, Dr. Cary, Elected President of the U. S. P. Convention (A) .....	148	Flu Epidemic (S) .....	39
Ego—and I (Iodine) .....	464	Fluidextract of Belladonna Root..	339
Electron Microscope .....	209, 358	Fluidextract of Cannabis .....	338
Elixir of Glycyrrhiza .....	339	Fluorescence .....	13
Elm .....	47	Food Adulteration (S) .....	166
Emulsion of Asafetida .....	338	Food, Drug and Cosmetic Act (S)	256
		Founders' Day Address, Philadelphia College of Pharmacy and Science .....	107
		Fumigants .....	186
		Fungi in Cutaneous Eruptions (A) .....	80
		Garlic (S) .....	256

	PAGE		PAGE
Gastric Acids .....	278	How Creams and Lotions Have	
Gelatin as a Stabilizer in Emul-		Fared Under the New Federal	
sions (A) .....	79	Regulatory Laws .....	397
Gelatin for Bacteriological Use		Human Plasma and Serum .....	387
(S) .....	380	Huyck, C. Lee (C. B.) .....	157, 206
Gelsemium .....	47	Hydrastis .....	47
Gentian .....	55	Hydrogen-ion Concentration in the	
Gershenfeld, Louis (C. B.) .....	116, 258	Evaluation of the Bactericidal	
Ginger .....	53	Efficiency of Surface Tension	
Ginseng .....	47	Depressants .....	89
Glass (S) .....	380	Hyoscyamus .....	48, 55
Glycerol-mono-oleate .....	217	Immigrant Drugs (S) .....	38
Glycols Employed as Aerosols		Indigotine .....	153
(A) .....	161	In Memoriam,	
Gonorrhea Treatment with Sul-		Braisted, William C. ....	42
fonamides (A) .....	336	Jordan, Charles B. ....	212
Great Britain Pharmaceutical So-		Kremers, Edward .....	260
ciety Aided .....	133	Inositol (S) .....	128
Griffith, Ivor (C. B.) .....	130, 470	Insect Control .....	177
Guinea Green .....	153	Insecticides .....	182
Guinea Green B .....	155	Insects Are Costly Enemies ....	177
Harding, T. Swann (C. B.),		Insulin (S) .....	447
75, 206, 382, 414, 470		Insulin Case (E) .....	261
Headache Machine (S) .....	209	Invadine .....	217
Headaches, Histamine in (A) ...	122	Iodate Assay for Relatively Pure	
Health in Defense .....	168	Ascorbic Acid .....	18
Henna .....	55	Iodine .....	464
Hercules Lemon Yellow .....	155	Iodine, Tincture .....	355
Hercules Yellow .....	154	Iodoform .....	339
Hercules Yellow Egg .....	152	Iron .....	339
Hexylresorcinol .....	221, 247	Isophorone and Some of Its De-	
Hexylresorcinol, glycerinated ...	355	rivatives (A) .....	378
Histamine in Headaches (A) ...	122	Italian Lemon .....	55
Horn, David W. (C. B.) .....	157	Jodana (S) .....	413
Hospital, Formulary and Compen-		Jordan, Charles B., In Memoriam	212
dium of Useful Information (B) ...	169	Juniper Berries .....	55
Hospital Masks .....	406	Kendig, H. Evert (C. B.) .....	304
Hospital Pharmacist (E) .....	349	Kidney Extract (A) .....	29
		Kino .....	339
		Kitchen Science (S) .....	165

	PAGE		PAGE
Kline, Mahlon N., a Dedication ..	416	Melting Point Determination ...	13
Kremers, Edward, a Dedication..	260	Melting Points .....	9
Krusen, Wilmer, a Dedication ...	172	Menadione, Assay Methods for ..	434
Kuever, R. A. (C. B.) .....	342	Menthol .....	221
Lactoflavin .....	268	Merbaphen .....	340
Lanolin .....	397	Mercresin .....	221
Lavender .....	55	Mercresin, Tincture .....	355
Leper Treatment .....	407	Mercuric Chloride .....	221, 245
Lemon Grass .....	53	Mercuric Chloride, Aqueous .....	355
Let Us Have Faith (E) .....	305	Mercurochrome .....	221
Licorice Root .....	55	Mercurochrome, Aqueous .....	355
Life Expectation (S) .....	412	Mercurophen, Aqueous .....	355
Light Green .....	153	Mercury Oxycyanide .....	221
Local Anesthetics Used in Den- tistry (A) .....	125	Merphenyl Borate .....	221
Luminescent Materials and Their Wartime Uses (A) .....	345	Merphenyl Nitrate .....	221
Lycopodium .....	55	Merthiolate .....	221, 246
Lyophile .....	387	Merthiolate, Aqueous .....	355
Magma of Ferric Hydroxide ....	340	Merthiolate, Tincture .....	355
Magnesium Tricillate .....	269, 279	Metabolic Rate Stimulants (A)..	36
Malignant Hypertension (S) ....	470	Metaphen .....	221
Malpass, George N. (C. B.) ....	75	Metaphen Tincture .....	355
Manna .....	55, 134	Meteor Catalog (S) .....	209
Mannite .....	135	2-Methyl-Naphthoquinone .....	264
Mannitol and Sorbitol in Phar- macy .....	134	Methylene Blue .....	153
Mannitol Hexanitrate (S) .....	468	Milanick, Vera (C. B.) .....	342
Mar-min (E) .....	5	Mildew Prevention (A) .....	163
Martindale Extra Pharmacopeia (S) .....	413	Milk, Phosphatase Test of .....	142
Maryland College of Pharmacy ..	421	Miscarriage of Justice, a (E) ...	261
Mass of Mercury .....	340	Momordica Charantia .....	282
Medical Care in the Average Family .....	363	Morphine Solutions, Stability of (A) .....	344
Medical Manual of Chemical War- fare (B) .....	301	Mosquito Control .....	407
Medical Service in the U. S. Army (S) .....	469	Mustard .....	50
		Nacconol .....	217
		Naphthol Yellow .....	155
		Naphthol Yellow (S) .....	153
		Naphthoquinones .....	276
		Nasal Filters for the Treatment of Common Colds (A) .....	30



	PAGE		PAGE
Nat. Fast Green .....	155	Orange Flowers .....	55
Nat. Light Green .....	155	Orange SS .....	152
Nation Takes Its Medicine (A) ..	11	Organic Chemistry, with Applica-	
National Formulary, New Articles		tions to Pharmacy and Medicine	
in .....	440	(B) .....	381
National Wholesale Druggists'		Organic Reagents in Inorganic	
Association 1940 Year Book		Analysis (B) .....	449
(B) .....	169	Origin of the Drug Industry .....	425
Nelson, Elmer M. (C. B.) .....	40	Osol, Arthur (C. B.) .....	297
Neoprene (S) .....	447	Our Policy (E) .....	131
New Drug Control .....	429	Pantothenic Acid (S) .....	127, 275
N. F. VI Articles Admitted to		Papaya .....	53
U. S. P. XII and Therefore Not		Parachlor Meta Cresol .....	221
Admitted to N. F. VII .....	441	Parenteral Administration (A) .	123
N. F. VI Articles Not Admitted		Pasteurization .....	146
to N. F. VII .....	441	Patent Office History .....	61
Nicotinamide .....	266	Patriotic Envelopes .....	68
Nicotinic Acid .....	266	Peacock, Josiah C., A Dedication	348
Nicotinic Acid Amide .....	266	Pellagra .....	275
No Worms in Mine, Please .....	364	Pellagra, Urine in (A) .....	36
Nopco D. L. N. ....	316	Penetrex .....	217
Nornicotine (S) .....	84	Penicillin (S) .....	39
Nutgall .....	340	Pep Medicines (S) .....	128
Nutgall Ointment .....	340	Peppermint .....	50
Nutmeg .....	395	Pepsin .....	340
Nutrition and National Health		Perfumes (S) .....	468
(E) .....	213	Perfusion Technic for the Evalu-	
Nylon Stockings (S) .....	257	ation of Bactericides by the Tis-	
Observations Upon the Phospha-		sue Culture Method .....	203
tase Test of Milk .....	142	Perlite (S) .....	448
Offspring Governed by Acid or Al-		Perlstein, David (C. B.) ....	116, 258
kalinity (S) .....	127	Petroleum Cresylic Acids (A) ..	164
Oil of Bitter Almond .....	55	Pharmaceutical Education Should	
Oil of Lavender (S) .....	38	Mean Just That (E) .....	385
Oil of Rose (S) .....	38	Pharmacologic Action as Influ-	
Oil of Santal .....	340	enced by External Temperature	
Oleomargarine (S) .....	448	(A) .....	378
Oleovitamin A and D .....	117	Pharmacopoeial Deletions .....	337
Opium .....	55	Pharmacy and the National Emer-	
Opium Assay .....	94	gency (E) .....	452



	PAGE		PAGE
Pharmacy and Philately .....	67	Pyridoxin .....	275
Pharmacy's Ambassador-at-Large		Pyridoxin Hydrochloride .....	267
—The Hospital Pharmacist (E) .....	349	Pyrogallol .....	340
Pharmacy's New Horizon .....	389	Quince Seed .....	55
Phenol .....	221, 244	Quinine .....	341, 395
Phenol, Aqueous .....	355	Quinine Substitutes (S) .....	412
"Phenol" Larvicides for Mosquito		Quinine Treatment (S) .....	469
Control .....	407	Radio Activity (E) .....	3
Phenothiazine (S) .....	126	Real Obstruction in the Eradica-	
Phenothiazine Assay (A) .....	374	tion of Syphilis (E) .....	417
<i>o</i> -Phenylphenol .....	221	Reduction of Arterial Blood Pres-	
Philadelphia College of Pharmacy		sure (A) .....	29
and Science:		Reptile Holder .....	100
119th Annual Commencement .....	302	Research Developing Domestic	
Elects New Officers .....	158	Source for Drugs and Spices ..	394
Founders' Day Address .....	107	Research in the Drug Industry ..	428
Philately and Pharmacy .....	67	Resin of Podophyllum .....	340
Phosphatase Test of Milk .....	142	Resorcinol .....	221
Physical Properties as a Basis for		Riboflavin .....	268, 275
the Identification of Solid Stuff	12	Ringworm Fungi, Action of Or-	
Pills of Aloe .....	340	gano-metallics On (A) .....	376
Pine Bark .....	47	Rivera, Gilberto (C. B.) .....	297
Pine Oil .....	55, 217	Rodman, Robert W. (C. B.) ....	414
Plasma .....	387	Rose Oil .....	55
Plasma-clot Technic .....	203	Rosengarten, George (C. B.) ...	382
Plexiglas (S) .....	208	Rosin, Joseph (C. B.) .....	433
Podophyllum .....	47, 340	Rosin, Joseph, A Dedication ....	2
Polariscopic Tests .....	10	Rotenone .....	185, 395
Ponce, Amelia de Mesa (C. B.) ..	116	Ruth, Robert J., A Dedication ...	384
Ponceau .....	152	Safeguards Needed in Treatment	
Potassium Chlorate .....	340	of Gonorrhea with Sulfonamides	
Powder of Ipecac and Opium ....	340	(A) .....	336
P-P Factor .....	266	Salicyclic Acid .....	221
Procter, William, Jr. ....	329	Saliva (S) .....	207
Promin (S) .....	412	Saliva and Incidence of Dental	
Propylene Glycol Aerosol (A) ..	162	Caries (A) .....	445
Proximate Assays .....	93	Saliva, Antibacterial Properties	
Ptomaines (S) .....	168	(A) .....	76
Pyrethrum .....	185	Sandbag Rot-Proofing (A) .....	445
		Santomerse .....	217

	PAGE		PAGE
Santonin .....	341	Spirit of Ethyl Nitrite .....	341
Sassafras .....	47	Squill .....	53, 341
Schain, Philip (C. B.) .....	116	Stahl, Kenneth H. (C. B.) .....	342
Science and Industry .....	99	Standardization of Vitamin Assays by the U. S. P. ....	23
Science the Handmaid of Agriculture .....	58	Starch (S) .....	447
Serpentaria .....	341	Sterilization of Air by Certain Glycols Employed as Aerosols (A) .....	161
Serum .....	387	Sterilization Method for Instru- ments and Appliances (A) ...	376
Serutan (E) .....	3	Stramonium .....	55
Sex Hormones (S) .....	379	Streptococci Survival Rates (A) ..	76
Shark Livers as a Source of Vita- min A (A) .....	31	Strychnine and Quinine Assay in Mixtures (A) .....	375
Shave Products Trend (A) .....	121	Strychnine, Determination of in Nux Vomica (A) .....	124
Ships Shoes and Sealing Wax (E) ..	351	Strychnine Nitrate .....	341
Shortage of Pharmacists—A Blessing or a Problem? (E) ..	174	Sulfa Drug Acidosis (S) .....	258
Siam Benzoin .....	55	Sulfa-drugs (S) .....	447
Silver Antiseptics with and with- out Ephedrine (A) .....	37	Sulfa Family (S) .....	39
Skin Resurfaces the Body (A) ..	77	Sulfa-miracle Drugs (S) .....	127
Soaps, Are They Germicidal? (A) ..	121	"Sulfa" Remedies (S) .....	166
Sodium Acetate .....	341	Sulfadiazine .....	272, 412, 447
Sodium Carbonate in the Treat- ment of Vincent's Infection (A) ..	343	Sulfanilamide Derivatives .....	280
Sodium Indigotin-disulfonate ....	153	Sulfanilamide, Local Applica- tions of (A) .....	344
Soil, A Poem .....	419	Sulfanilamide to Control Postop- erative Infection of the Urinary Tract (A) .....	80
Solid Extracts, 38, 82, 126, 165 207, 256, 379, 412, 447, 468		Sulfapyridine .....	280
Solution of Ammonium Acetate ..	341	Sulfathiazole .....	270
Solution of Ferric Chloride .....	341	Sulfathiazole Incident, The (E) ..	173
Solution of Iron Tersulfate .....	341	Sulfathiazole Ointment in the Treatment of Cutaneous Infec- tions (A) .....	442
Sorban .....	138	Sulfonamide Compounds, Rate of Diffusion of (A) .....	443
Sorbite .....	136	Sulfonamide E. O. S. (A) .....	81
Sorbitol and Mannitol in Phar- macy .....	134		
Spanish Saffron .....	55		
Spearmint .....	50		
Speel, Henry C. (C. B.) .....	157		
Spice Sources .....	394		
Spirit of Chloroform .....	341		

	PAGE		PAGE
Sulfonamides, Treatment of Gonorrhea (A) .....	336	Tetanus Antitoxin (S) .....	207
Sulfonated Castor Oil .....	217	Texas Senna .....	54
Sulfonethylmethane .....	341	Theobromine with Sodium Salicylate .....	341
Sulphatate .....	217	Therapeutic Research Corporation of Great Britain, Ltd. ....	463
Sunlight Effect on Coloring Agent Solutions .....	149	Therapeutics of Some New Drugs .....	273
Sunset Yellow .....	152	Thiamine .....	273
Surface Tension Depressants, Bactericidal and Bacteriostatic ....	306	Thomas, C. A. (C. B.) .....	206
Surface Tension Depressants, Bactericidal Efficiency of .....	89	Thymol .....	221
Surface Tension Reducents in Bactericidal Solutions: Their <i>In Vitro</i> and <i>In Vivo</i> Efficiencies. ....	215	Tice, Linwood F., Elected Editor of American Journal of Pharmacy .....	159
Sweet Almond .....	55	Tincture of Aconite .....	337
Synthetic Ensemble (S) .....	165	Tincture of Cantharides .....	338
Syphilis, Infectious Relapse in (S) .....	448	Tincture of Capsicum .....	338
Syphilis, Real Obstruction in Eradication of (E) .....	417	Tincture of Cudbear .....	152
Syrup of Ferrous Iodide .....	341	Tincture of Ferric Chloride ....	341
Syrup of Squill .....	341	Tincture of Iodine U. S. P. XI ..	221
Tabasco—A Substitute for Capsicum (A) .....	372	Tincture of Kino .....	340
Tannic Acid Scars (A) .....	29	Tincture of Squill .....	341
Tartrazine .....	152	Tincture of Valerian .....	342
Taylor, Frank O. (C. B.) .....	116	Tincture of Veratrum Viride ....	342
Tea-leaf Surplus (S) .....	379	Tinctures of Iodine, U. S. P.—Proposed Changes .....	20
Tears, Antibacterial Properties (A) .....	76	Tissue Culture Method of Bactericide Evaluation .....	203
Television (S) .....	166	Tocopherols .....	277
Tentative Methods of Assay ....	98	Tooth Cleaning (S) .....	207
Terebene .....	341	Toothbrush Construction (S) ...	208
Tergitol .....	217, 316	Triethanolamine .....	217
Terposol .....	217	Triton K-12 .....	316
Test for Heavy Metals in Hypophosphorous Acid .....	327	Tuberculosis (S) .....	126, 413
Tetanus and Diphtheria Combined Antitoxin (S) .....	257	Tuberculosis Case Findings, X-ray Films in (A) .....	33
		Tung Oil (S) .....	256
		Turpentine .....	47
		Tyndalisation Process (A) .....	120
		Tyrode Solution .....	203, 354

	PAGE		PAGE
Ulcer Tablets (S) .....	256	Vitamin D in Milk (S) .....	127
Ultraviolet Absorption of Certain		Vitamin E .....	263, 277, 399, 442
Local Anesthetics (A) .....	372	Vitamin F .....	399
Ultra Violet Light and Sunlight		Vitamin G .....	268
Effect on Solutions of Some		Vitamin K .....	264, 276
Coloring Agents .....	149	Vitamin Nutrition (S) .....	168
Ultraven .....	217	Vitamin Sales (S) .....	412
Ultrawet .....	217	War Wound Treatment .....	408
U. S. P. XII Selections, 119, 337, 441		Washed Sulfur .....	342
U. S. P. Elects Dr. Eggleston		Water Purification (S) .....	413
President .....	148	Wetting Agents (A) .....	162
U. S. P. XII Recommendations ..	118	What Food for Freedom Means	
U. S. P. Revision Announcements	117	For Pharmacy .....	455
U. S. P. Revision Lists .....	17, 28	Witlin, Bernard (C. B.) .....	206, 258, 382
U. S. P. Use in Pan-American		Wood, Horatio C. (C. B.) .....	297
Countries .....	103	Wool Fat .....	397
Valerian .....	342	X-ray (S) .....	126
Vanilla Bean Culture .....	395	Yarmour Pine Oil .....	217
Veratrum Viride .....	342	Yellow Mercurous Iodide .....	342
Vincent's Infection (A) .....	343	Zeolite (S) .....	413
Vinegar of Squill .....	341	Zephiran .....	249
Viriform A .....	217	Zinc Peroxide .....	271
Vitamins .....	455	Zinc Peroxide and Its Use in Oint-	
Vitamin B .....	273	ments (A) .....	373
Vitamin B <sub>2</sub> .....	268	Zonite .....	221, 248
Vitamin B <sub>6</sub> .....	267, 469	Zonite, Aqueous .....	355

